## ABSTRACT OF THE DISCLOSURE

The present invention relates to the production of a product compound having a structure according to Formulae IA and/or IB:

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B

$$C = R^1$$
 $C = R^1$ 
 $C = R^1$ 
 $C = R^2$ 
 $C = R^2$ 
 $C = R^3$ 
 $C = C = R^3$ 

(IA)

(-

B

$$C = R^1$$
 $OH$ 
 $CH_2$ 
 $OH$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 
 $CH_3$ 

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(IB)

wherein

n is 0 or 1;

R<sup>1</sup> is hydrogen or hydroxy;

R<sup>2</sup> is hydrogen;

or, when n is 0,  $R^1$  and  $R^2$  taken together form a second bond between the carbon atoms bearing  $R^1$  and  $R^2$ , provided that when n is 1,  $R^1$  and  $R^2$  are each hydrogen;

R<sup>3</sup> is —COOH or —COOR<sup>4</sup>;

R<sup>4</sup> is an alkyl or aryl moiety;

A, B, and D are the substituents of their rings, each of which may be different or the same, and are selected from the group consisting of hydrogen, halogens, alkyl, hydroxy, and alkoxy.

This process involves incubating a starting compound having a structure according to Formulae IIA and/or IIB:

B

$$C = R^1$$
 $C = R^1$ 
 $C = R^1$ 
 $C = R^2$ 
 $C = R^3$ 
 $C = R^3$ 
 $C = R^3$ 

(IIA)

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B

$$C = R^1$$
 $C = R^1$ 
 $C = R^1$ 
 $C = R^2$ 
 $C = R^2$ 
 $C = R^3$ 
 $C = R^3$ 

(IIB)

wherein R<sup>3</sup> is -CH<sub>3</sub> and R<sup>1</sup>, R<sup>2</sup>, A, B, and D are defined above.
in the presence of a microorganism under conditions effective to produce the product compound. The microorganism can be from the genus *Streptomyces*, *Stemphylium*, *Gliocladium*, *Bacillus*, *Botrytis*, *Cyathus*, *Rhizopus*, *Pycniodosphora*, *Pseudomonas*, *Helicostylum*, *Aspergillus*, *Mucor*, *Gelasinospora*, *Rhodotorula*, *Candida*, *Mycobacterium*, or *Penicillium*. Alternatively, the microorganism can be *Cunninghamella bainieri*.